

## THE SCIENTIFIC NOVELTY OF THE THESIS

Name of candidate: **Nguyen Huu Phu**

Thesis title: *Management of Urban Surface Drainage in the Dong Hoi Urban Area, Quang Tri Province, Based on the Sponge City Model.*

Speciality: **Urban and Construction Management**

**Code: 9580106**

Supervisors: **Associate Professor, Dr. Nguyen Hong Tien**

**Dr. Nguyen Van Nam**

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1. Proposal to incorporate Sponge City (SPC) - based drainage contents into urban planning and the implementation of planning schemes.

(i) Integrate the principles, criteria, and technical solutions of the Sponge City (SPC) model from the early stages of preparing new planning documents at all planning levels.

(ii) Flexibly incorporate SPC solutions into approved planning schemes through planning adjustments, technical infrastructure design modifications, or appropriate upgrading and retrofitting projects in accordance with the specific conditions of the study area.;

2. Proposal of a set of criteria and indicators for evaluating urban surface drainage management under the Sponge City model, comprising four criteria groups and fifteen specific criteria. Compared to existing international assessment frameworks, the proposed criteria system is more comprehensive and includes the following groups: urban planning and drainage planning; drainage technical infrastructure; operation and maintenance management; and institutional and organizational management..

3. Proposal of a set of integrated solutions for urban drainage management organization and community participation under the Sponge City model, incorporating the application of simulation tools and GIS to support decision-making and monitoring.